

CLAIMS:

1. (Previously presented) A method of removing sodium from a human subject comprising administering to a human subject in need thereof an effective amount of a non-absorbed sodium-binding composition comprising a sodium-binding polymer, said polymer comprising at least one of polyvinylsulfonate polymer, polyvinylsulfamate polymer, polyvinylsulfamate/vinylsulfate copolymer, vinylphosphonate/acrylic acid copolymer, polyvinylsulfate polymer, or crosslinked polyvinylsulfamate polymer, wherein said human subject is suffering from hypertension, chronic heart failure, end stage renal disease, liver cirrhosis, chronic renal insufficiency, fluid overload, or sodium overload.
2. (Canceled)
3. (Withdrawn) The method of claim 1 wherein said sodium-binding composition exhibits decreased permeability to sodium bound in a lower gastrointestinal tract relative to a permeability exhibited by the sodium-binding composition to said bound sodium in an upper gastrointestinal tract.
4. (Canceled)
5. (Withdrawn) The method of claim 1 wherein said sodium-binding composition swells in an isotonic fluid environment.
6. (Withdrawn) The method of claim 1 wherein said sodium binding by said sodium-binding composition is dependent on a pH of an environment surrounding said polymeric composition.
7. (Withdrawn) The method of claim 3 wherein said sodium binding by said sodium-binding composition is dependent on a concentration of bile acids and/or fatty acids in an environment surrounding said polymeric composition.

8. (Withdrawn) The method of claim 3 wherein said sodium binding by said sodium-binding composition is dependent on an activity of enteric enzymes in an environment surrounding said polymeric composition.

9. (Canceled)

10. (Withdrawn) The method of claim 1 wherein said sodium-binding composition does not release  $\text{Cl}^-$  or  $\text{OH}^-$ .

11. (Withdrawn) The method of claim 1 wherein said sodium-binding composition does not release  $\text{K}^+$ .

12. (Canceled)

13. (Previously presented) The method of claim 1 wherein said sodium-binding polymer comprises repeat units charged with  $\text{H}^+$  or  $\text{NH}_4^+$  ions.

14. (Previously presented) The method of claim 1 wherein said effective amount of sodium-binding composition administered is from about 0.5 grams per day to about 25 grams per day.

15. (Previously presented) The method of claim 1 wherein the effective amount of said sodium-binding composition removes about 50 mmol of sodium per day.

Claims 16 - 35. (Canceled)

36. (Previously presented) The method of claim 1 wherein extra cellular water is removed from said human subject.

37. (Previously presented) The method of claim 1 wherein a beneficial effect is observed on fluid management, blood pressure control, and/or interdialytic weight gain.

38. (Previously presented) The method of claim 1 wherein said human subject is suffering from a disease characterized by a presence of abnormal quantities of sodium and/or water in the body of said human subject.

39. (Previously presented) The method of claim 1 wherein said human subject is resistant to diuretic treatment.

40. (Canceled)

41. (Previously presented) The method of claim 1 wherein treatment of said human subject reduces the incidence of edema after a cardiac event.

42. (Previously presented) The method of claim 1 wherein said human subject is suffering from volume/salt sensitive diastolic heart failure.

43. (Previously presented) The method of claim 1 wherein said composition is co-administered with a diuretic, an ACE inhibitor, an  $\alpha$ - blocker, a  $\beta$ - blocker, an angiotensin II receptor blocker, or a combination thereof.

44. (Previously presented) The method of claim 1 wherein said composition is co-administered with a laxative.

45. (Previously presented) The method of claim 1 wherein said sodium-binding polymer has an *in vitro* sodium binding capacity of equal to or more than 6 mmol per gram of polymer at a pH of about 7.5.

46. (Previously presented) The method of claim 49 wherein the *in vivo* sodium binding capacity is 5 mmol or more per gram of said polymer.

47. (Previously presented) The method of claim 49 wherein the *in vivo* sodium binding capacity is 6 mmol or more per gram of said polymer.

48. (Previously presented) The method of claim 49 wherein the *in vivo* sodium binding capacity is 8 mmol or more per gram of said polymer.

49. (Previously presented) The method of claim 1 wherein the *in vivo* sodium binding capacity is 4 mmol or more per gram of polymer and is calculated by measuring the amount of sodium in the feces after administration of the sodium-binding polymer to a human patient.

50. (Canceled)

51. (Previously presented) The method of claim 1 wherein said sodium binding polymer comprises a crosslinked polymer.

Claims 52 - 59. (Canceled)

60. (Previously presented) The method of claim 1 wherein said human subject is suffering from end stage renal disease.

61. (Previously presented) The method of claim 1 wherein said human subject is suffering from chronic heart failure.

62. (Currently amended) A method of removing sodium from a human subject comprising administering to a human subject in need thereof an effective amount of a non-absorbed sodium-binding composition comprising a sodium-binding polymer, said polymer

comprising at least one of polyvinylsulfonate polymer, polyvinylsulfamate polymer, polyvinylsulfamate/vinylsulfate copolymer, vinylphosphonate/acrylic acid copolymer, polyvinylsulfate polymer, or crosslinked polyvinylsulfamate polymer, ~~or poly- $\alpha$ -acrylic acid polymer,~~

wherein said effective amount of sodium-binding composition administered is at least about 5 grams of polymer per day and said human subject is suffering from hypertension, chronic heart failure, end stage renal disease, liver cirrhosis, chronic renal insufficiency, fluid overload, or sodium overload.

63. (Canceled)

64. (Previously presented) The method of claim 62 wherein extracellular water is removed from said human subject.

65. (Previously presented) The method of claim 62 wherein a beneficial effect is observed on fluid management, blood pressure control, and/or interdialytic weight gain.

66. (Previously presented) The method of claim 62 wherein said human subject is suffering from a disease characterized by a presence of abnormal quantities of sodium and/or water in the body of said human subject.

67. (Previously presented) The method of claim 62 wherein said human subject is resistant to diuretic treatment.

68. (Canceled)

69. (Previously presented) The method of claim 62 wherein treatment of said human subject reduces the incidence of edema after a cardiac event.

70. (Previously presented) The method of claim 62 wherein said human subject is suffering from volume/salt sensitive diastolic heart failure.

71. (Previously presented) The method of claim 62 wherein said composition is co-administered with a diuretic, an ACE inhibitor, an  $\alpha$ - blocker, a  $\beta$ - blocker, an angiotensin II receptor blocker, or a combination thereof.

72. (Previously presented) The method of claim 62 wherein the *in vivo* sodium binding capacity is 4 mmol or more per gram of polymer and is calculated by measuring the amount of sodium in the feces after administration of the sodium-binding polymer to a human patient.

73. (Canceled)

74. (Previously presented) The method of claim 62 wherein said sodium binding polymer comprises a crosslinked polymer.

75. (Previously presented) The method of claim 62 wherein said human subject is suffering from end stage renal disease.

76. (Previously presented) The method of claim 62 wherein said human subject is suffering from chronic heart failure.